SOLUTIA Solutions for a better life.

February 25, 2005

Mr. Nabil S. Fayoumi
U. S. Environmental Protection Agency - Region 5
Superfund Division
77 West Jackson Boulevard (SR-6J)
Chicago, Illinois 60604-3590

Re: Slurry Wall Spoils Generation
Groundwater Migration Control System
Sauget Area 2 – Sites O, Q, R and S
Sauget, Illinois

Dear Nabil:

During a teleconference on February 22, 2005, you requested a proposal for the management of the spoil material generated by construction of the slurry wall for the Groundwater Migration Control System at the Sauget Area 2 Site R. This letter provides information on the final volume of spoils generated by the construction and presents the requested management proposal.

In Section 4.4.1 of the revised Prefinal Design submitted to you on July 3, 2003, it was noted that the design allowed for a maximum of approximately 20,000 cubic yards of spoil to be stored in a temporary stockpile on top of Site R, consisting of excavated soil, bentonite slurry, and excess or spilled backfill mix. It was also noted that the actual volume of spoil was expected to 10,000 cubic yards or less. That estimate was revised in a letter dated October 24, 2003. In that letter, the spoil volume was projected to be between 17,500 and 25,500 cubic yards, primarily because of the need to add imported clay soil to decrease the permeability of the in situ materials and because of the inability to use the fly ash, boulders, and landfilled materials encountered at the site for backfill.

The actual volume of spoil generated at the site is approximately 39,000 cubic yards. The sources of the additional materials are the following:

- The total volume of surplus slurry to be solidified amounted to about 10,000 cu. yd., as opposed to the 5,000 cu. yd. estimate contained in our October 4, 2003 letter. The increase in the surplus slurry was largely the result of the fact that fresh slurry had to be added to the trench on a continuous basis to control the sand content and density, despite our best efforts to de-sand the in-place slurry. The winter shutdown at the beginning of 2004 also resulted in the generation of additional slurry volumes that could not be reused.

- The slurry trench between approximately stations 28+00 and 31+00 was excavated with a mechanical clamshell because of potential subsurface obstructions. The bucket on a mechanical clam cannot be controlled with the same degree of precision as a hydraulic clam, with the result that the trench width in this area was closer to 8 feet than the 3.5 feet that is representative of the rest of the trench. Allowing for the addition of 15 percent clay borrow and 5 percent bentonite to achieve the permeability specifications, the additional spoil generated in this section of the project was approximately 1,500 cu. yd.

- Because of the presence of fly ash across most of the site, a substantial granular work pad had to be constructed along most of the trench alignment for support of the excavation equipment. The upper two feet of this work pad was removed and classified as spoil. This amounts to approximately 6,000 cu. yd.

- In our October 24 letter, we estimated that the volume of landfilled material present along the trench alignment in Site Q would be about 1,500 cu. yd. The actual volume of unsuitable material transported to the containment area on top of Site R was approximately 4,500 cu. yd., about 3,000 cu. yd. more than estimated.

At present, about 11,000 cu. yd. of soil and 3,000 cu. yd. of liquid slurry are located in the temporary stockpile on top of Site R. Some of the soil is very wet and requires stabilizing and the slurry will have to be solidified. This will result in an additional 700 to 1000 cu. yd. of cement being added to the materials. The remaining 24,000 cu. yd. of spoil is presently located between the slurry wall and the western toe of the landfill, as shown on the attached Figure 1. That material will either have to be placed in locations other than on top of the Site R landfill, or a second containment area for an additional temporary stockpile will have to be constructed on top of the landfill.

Approximately half of the spoil along the toe of the landfill (11,000 cu. yd.) has already been graded to promote drainage and natural drying. This material is located in the southern half of the site (as shown on Figure 1) and was spread in this location because the stockpile area was full and it had to be graded to prevent stormwater ponding and subsequent softening. About 6,000 cu. yd. has been covered with a minimum of 6 inches of clean topsoil in order to minimize the volume of contact stormwater requiring collection and treatment, while the rest is sloped to drain, but has not been covered by topsoil. The approximately 13,000 cu. yd. of ungraded material sits in piles and windrows in the northern half of the site.

Based on the current configuration of the temporary stockpile area, approximately 4,000 cu. yd. of the ungraded spoil will have to be transported to the top of the landfill to allow completion of the pile to the design grades. It is proposed that the remaining 20,000 cu. yd. of spoil presently located between the slurry wall and the toe of the landfill, including the 11,000 cu. yd. that have already been graded, be left in place. The 9,000 cu. yd. of ungraded material will be graded to promote natural drainage and all of the spoil will be covered by at least 6 inches of clean topsoil and seeded.

This proposal has the advantage of providing a secure long term management alternative for the spoil, while allowing improvements in the pre-construction surface water drainage system at the site. Prior to construction of the slurry wall, the lowest part of the site was the central portion between the river bank and the western toe of the landfill. Water ponded in this area even after modest rainstorms and access was difficult until the ponded water evaporated or infiltrated. Easy access to this area is important since extraction well EW-2 and piezometer pairs PZ-2 and PZ-3 are located in this part of the site. By spreading and grading the spoils as proposed, the ponding will be eliminated without the need to import even more borrow material from off-site sources.

Since the spoil will all be located upgradient of the barrier wall, potential groundwater impacts from infiltration of precipitation through the material is not an issue. All groundwater upgradient of the wall is extracted and pumped to the American Bottoms Regional Wastewater Treatment Facility for treatment and disposal. Thus, the only potential environmental pathways of concern are direct contact with the spoil and migration of the spoil into the surface water system as a result of erosion during a flood event.

Direct contact in not considered to be an important exposure pathway since the site is secured with a perimeter fence and is not used for any routine purpose. Consequently, human presence is extremely sporadic and the opportunity for direct contact is minimal. During an evaluation of the current site risks to human health that was completed as part of the RCRA Environmental Indicator process, the existing site security was judged to provide sufficient protection to satisfy concerns about exposure to occupational workers

and trespassers.

With regard to possible erosion and migration into the surface water regime, placement of the spoil in this area of the site will not increase the likelihood that it will be eroded during a flooding event. The material will be placed in a low lying portion of the site and will be covered by at least 6 inches of clean topsoil. In the event of flooding, the velocity structure of the floodwaters is such that this area will be a low velocity regime in which surface soil erosion will be minimal or non-existent. Published data on the critical flow velocity required to erode different soils and surfaces indicates that a flow velocity in the vicinity of 4 feet per second is necessary to cause erosion in a grass lined channel. The area under consideration is not a channel with concentrated flow and, consequently, even higher velocities will be required to cause erosion. It is unlikely that overbank velocities this high will be experienced during a flood event at the site. However, it is recommended that regular inspection of the topsoil and vegetative growth layer form a part of the routine Operation and Maintenance activities at the site to ensure that potential erosion is identified early and repaired.

As a means of documenting the volume and characteristics of the spoil placed in this portion of the site, it is proposed that four samples of the material be obtained at random locations and depths (approximately one sample per 5,000 cu yd. of spoil). These samples will be analyzed for volatile and semi-volatile organic constituents, using Methods 8260 and 8270 respectively. These compounds are the primary constituents of concern identified in groundwater at the site and would be expected to be the constituents present in soil excavated from beneath the water table in the slurry trench. It is also proposed that the samples be analyzed for leachable constituents using the Toxicity Characteristic Leaching Procedure (TCLP) to provide some indication about the propensity of these constituents to leach from the spoil. In order to ensure that you have the analytical results on a timely basis to assist you with your evaluation of this proposal, we will obtain the proposed samples as soon as possible (in the early part of next week) and instruct the laboratory to analyze them on an accelerated turnaround basis. As soon as the results are available (tentatively during the latter part of the week of March 7th), we will forward them to you.

Once the grading is complete, a report will be prepared showing the surveyed extent of the spoil location(s) and isopachs of spoil thickness, based on pre- and post-construction surveys.

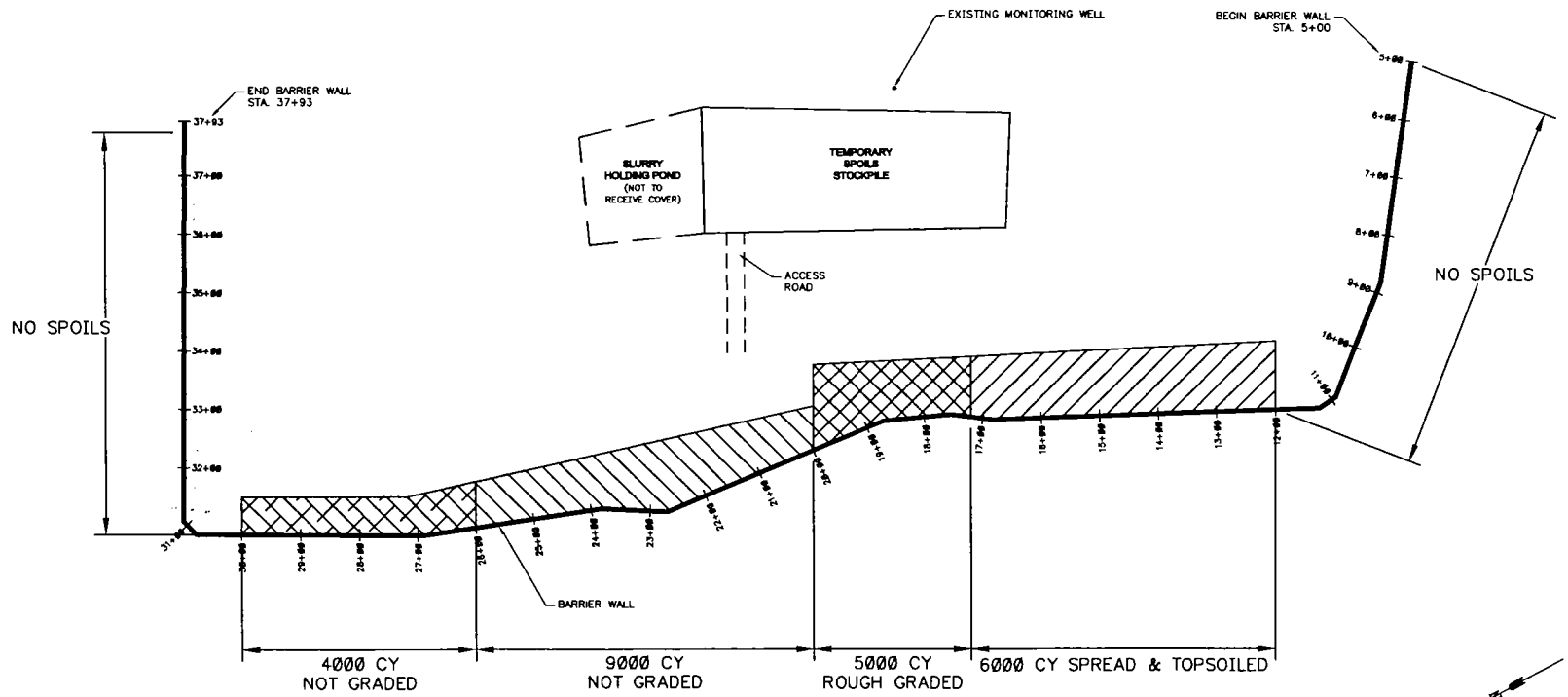
If you have any questions about this letter, or wish to discus the details of the proposal, please do not hesitate to call me.

Sincerely,

Steven D. Smith

Project Coordinator

cc: Sandra Bron - IEPA
Chris English – CH2M Hill
Glen Kurowski, Monsanto
Bruce Yare - Solutia
Richard Williams - Solutia



STATUS REPORT GROUNDWATER MIGRATION CONTROL SYSTEM SAUGET AREA 2 SAUGET & CAHOKIA, ILLINOIS	PROJECT NO. 21561478.00000
URS	
DRN. BY: djd 2/22/05 DSGN. BY: th CHKD. BY:	Spoils Locations — FIG. NO. 1